

## Compact Filter Pack

CFP 03



### Safety and operating instructions

**Read safety and operating instructions before use.**

**Note:** The indicated data only serve to describe the product. Specifications regarding the use of this product are only examples and suggestions. Catalog specifications are no guaranteed features. The information given does not release the user from his / her own assessments and inspection.

Our products are subject to a process of natural wear and aging.

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The picture on the title page shows a configuration example. The delivered product may thus differ from the illustration.

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## 1. About this documentation

### 1.1 Applicability of this documentation

This documentation is applicable for the following product:

- › Compact Filter Unit CFP 03

This documentation is written for technicians, operators, service engineers and system operators.

This document contains important information for safe and appropriate assembly, transport, activation, operation, usage, servicing, dismantling and simple troubleshooting.

- › Read this document completely and in particular Chapter 2, "Safety Instructions", before you work with the product.

### 1.2 Required and supplementary documentation

Do not commission the product until you have received the documentation marked with the book icon and before you have understood and complied with the information therein.


	Title	Number of document	1.2.1 Document type
	Data sheet	80.62	PDF

Table 1: Required and supplementary documentation

### 1.3 Presentation of information

So that this document can help you to work quickly and safely with your product, we use standardized safety instructions, symbols, terms and abbreviations. For better understanding, these are explained in the following sections.

#### 1.3.1 Safety instructions

In this documentation, safety instructions are faced with a sequence of actions which would result in the danger of personal injury or damage to equipment. The measures described to avoid these hazards must be observed.

 <b>DANGER</b>	
	<b>Type and source of danger</b> <ul style="list-style-type: none"><li>› Consequences of the danger</li><li>› Escaping or averting the danger</li><li>› Rescue (optional)</li></ul>

- › Warning signal: draws attention to the danger
- › Signal word: indicates the severity of the danger
- › Type and source of danger: specifies the type and source of danger
- › Consequences: describes the consequences in the event of non-compliance
- › Action: indicates how the danger can be avoided




Warning sign, signal word	Meaning
 <b>DANGER</b>	Indicates a dangerous situation which results in death or serious injury if not avoided.
 <b>WARNING</b>	Indicates a dangerous situation which may result in death or serious bodily injury if not avoided.
 <b>CAUTION</b>	Indicates a dangerous situation which may result in light to moderate injury if not avoided.
<b>NOTE</b>	Indicates property damage: The product or surrounding could be damaged.

Table 2: Danger classes according to ANSI Z536.6-2006

### 1.3.2 Symbols

The following symbols indicate notes which are not safety-relevant but increase the intelligibility of the documentation.









Symbol	Meaning
	If this information is not observed, the product cannot optimally be used or operated
>	Singular, independent action step / instruction
1. 2. 3.	Numbered instruction The numbers indicate that the action steps follow one another
	This symbol indicates danger to equipment, material and environment
	This symbol indicates the risk of personal injury (minor injury).
	This symbol indicates the risk of personal injury (death, serious bodily injury).
	This symbol specifies that protective gloves should be worn.
	This symbol specifies that safety shoes should be worn.
	This symbol specifies that protective goggles should be worn.
	This symbol specifies that the unit should be disconnected from the power supply.

Table 3: Meaning of symbols

### 1.3.3 Terms

In this documentation the following terms are used:

Term	Meaning

Table 4: Terms

### 1.3.4 Abbreviations

In this documentation the following abbreviations are used:

Term	Meaning
CFP	Compact Filter Pack

Table 5: Abbreviations

## 2. Safety instructions

### 2.1 About this chapter

This product was manufactured according to the generally recognized standards of engineering. Nevertheless, there is a danger of injury or damage if you do not observe this chapter and the safety instructions in this documentation.

- › Read this document thoroughly and completely before working with the product.
- › Retain this document and ensure that it is available for all users at all times.
- › Always include the necessary documentation when passing the equipment along to a third party.

### 2.2 Intended use

This product is a compact service device.

You may use the product for the following:

- › for filtration of lubricating and hydraulic oils during filling of machines and systems, taking the technical data into account;
- › for filtration of hydraulic fluids in the bypass flow on machines and systems, taking the technical data into account.

This product is intended for professional use only, and not for private use.

"Intended use" also includes that you have completely read and understood this documentation, in particular chapter 2 "Safety Instructions".

### 2.3 Improper use

Any other use than the intended use described, is improper and inadmissible.

If unsuitable products are installed or used in safety-related applications, unintended operating states may occur in the application, which may cause personal injury and / or property damage.

Therefore only use this product in safety-related applications if this use is explicitly specified and permitted in the product documentation, e.g. in explosion protection areas or in safety-related parts of a control system (functional safety).

ARGO-HYTOS Polska Sp.z.o.o assumes no liability for damages resulting from improper use. The risks associated with improper use are solely with the user.

### 2.4 Reasonably foreseeable misuse

The delivery of the following media is forbidden:

- › flammable liquids such as petrol or thinner (explosion hazard)
- › foodstuffs

The device is not suitable for sucking sludge and sediment.

The operator alone is liable for damages resulting from improper use.

### 2.5 Qualification of personnel

The operations described in this document require fundamental knowledge of mechanics and hydraulics as well as knowledge of the appropriate technical terms. In order to ensure safe use, these operations may therefore only be carried out by a correspondingly skilled worker or an instructed person under the guidance of a skilled worker.

A skilled worker is someone who can - based on his / her technical education, knowledge and experience as well as knowledge of the respective regulations of the jobs assigned to him / her - recognize possible dangers and ensure appropriate safety measures.

A skilled worker must observe the relevant technical regulations.

#### The device may be repaired or maintained by the following individuals:

- › Qualified / specialized staff with adequate training.





#### Work on electrical components:

- › Only electrical specialists with adequate training.

## 2.6 General safety instructions

- › Observe the valid regulations for accident prevention and environmental protection.
- › Observe the safety regulations and requirements of the country in which the product is used / applied.
- › Only use ARGO-HYTOS products that are in technically perfect condition.
- › Observe all instructions on the product.
- › People who assemble, operate, disassemble or maintain ARGO-HYTOS products may not do so under the influence of alcohol, other drugs or medications that affect the responsiveness.
- › Only use manufacturer-approved accessories and spare parts, in order to prevent personal danger due to unsuitable spare parts.
- › Observe the technical data and ambient specifications specified in the product documentation.
- › If unsuitable products are used or installed in safety-relevant applications, unintended operating states may occur in the application, which can cause personal injury and / or material damage. Therefore only use the product in safety-relevant applications if this use is explicitly specified and permitted in the product documentation.
- › You may only put the product into operation, when it has been established that the final product (e.g. a machine or system), into which the ARGO-HYTOS products have been installed, complies with the country-specific regulations, safety regulations and standards of the application.

## 2.7 Product and technology related safety instructions

 <b>CAUTION</b>	
	<p><b>Leaked hydraulic oil</b> <b>Environmental hazard / risk of slipping.</b></p> <ul style="list-style-type: none"><li>› In case of spills, cover the oil-covered surface immediately with an oil-binding medium.</li><li>› Then immediately dispose of the oil-binding medium according to the national environmental regulations.</li></ul>
	<p><b>Ignition hazard</b> <b>Risk of electrostatic charge by poorly conducting hydraulic fluid.</b></p> <ul style="list-style-type: none"><li>› If the electrical conductivity of the hydraulic fluid is not known, please contact the manufacturer of the hydraulic fluid.</li></ul>
	<p><b>Risk of burns</b> <b>Contact temperatures according to DIN EN563 (3) and DIN EN13202 (4) may be exceeded during operation.</b></p> <ul style="list-style-type: none"><li>› Allow the filter unit to cool down before touching it.</li></ul>

#### For prevention of material damage and product damage



#### **Danger due to improper handling**

##### **Property damage**

- › The filter unit may only be used in accordance with Section 2.2, "Intended use".

##### **Leakage or spillage of hydraulic fluid**

##### **Environmental pollution and ground water contamination.**

- › Use oil binding agents in order to bind leaked hydraulic oil.



#### **Risk of burns**

##### **Contact temperatures according to DIN EN563 (3) and DIN EN13202 (4) may be exceed during operation.**

- › Allow the filter unit to cool down before touching it.

#### **Contamination due to fluids and foreign bodies**

##### **Premature wear - malfunction - risk of damage - property damage**

- › Ensure cleanliness during installation in order to prevent foreign bodies, such as welding beads or metal chips, from entering the hydraulic lines, leading to premature wear or malfunction.
- › Make sure that connections, hydraulic lines and attachment parts (e.g. gauges) are free of dirt and chips.
- › Prior to commissioning, check that all hydraulic and mechanical connections are connected and tight, and that all gaskets and seals of the plug connectors are correctly assembled and undamaged.
- › For removal of lubricants and other contaminants, use residue-free industrial wipes.
- › Make sure that all connections, hydraulic lines and attachment parts are clean.
- › Ensure that no contaminants enter when closing the connections.
- › Make sure that no detergents enter the hydraulic system.
- › Do not use cotton waste or faying cleaning rags for cleaning.
- › Do not use hemp as sealing agent.



#### **Improper cleaning**

##### **Premature wear - malfunction - risk of damage - property damage**

- › Close all openings with appropriate protective fittings to prevent penetration of detergents.
- › Do not use aggressive cleaning agents for cleaning. Clean the product with a suitable cleaning fluid.
- › Do not use a high pressure cleaner.
- › Do not use compressed air to clean function interfaces such as seal areas.



## 4. Scope of delivery

### 4.1 Scope of components

The unit is supplied with a set of hydraulic hoses. The suction hose DN12 is installed in the suction port of the pump. The oil sucked from the system / barrel is pumped by the pump into the main filter and then, after being filtered, it is transferred to a DN8 discharge hose, connected to the filter output. Both hoses are provided with plugs in order to avoid a possible leakage of residual oil during storage and transport. The plugs are installed on the free ends of the hoses. The CFP unit is delivered with electric cable and electric plug.

### 4.2 Additional components

One additional component for the CFP Compact Filter Pack is a return-suction set (picture and drawing below). The set has to be ordered separately.



Fig. 1: Additional component: suction-return set

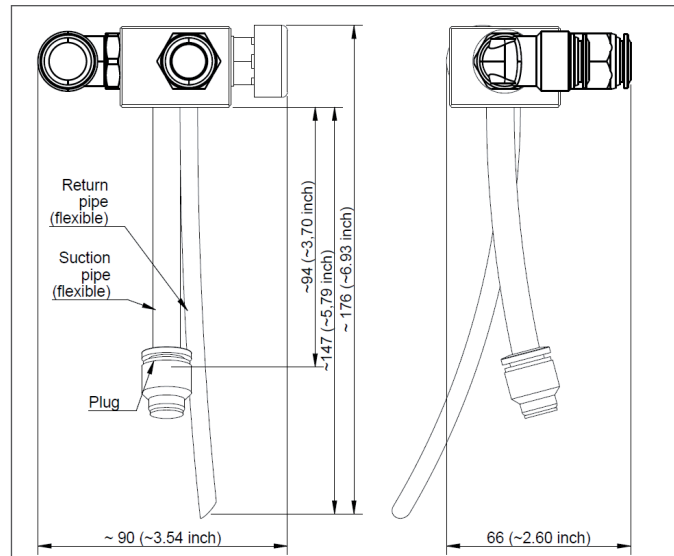


Fig. 2: Suction-return set - dimensions

If suction-return set is installed in plastic tanks, additional adapter has to be ordered (the picture below). The adapter has to be ordered separately.



Fig. 3: Additional component: adapter for installation in plastic tanks

## 5. About this product

### 5.1 Performance specification

The CFP is a portable service unit dedicated for pumping of oil, filling of tanks and for off-line filtration of hydraulic fluids and lubricants with a viscosity of 10 mm<sup>2</sup>/s - 300 mm<sup>2</sup>/s (continuous operation without suction-return adapter) or 170 mm<sup>2</sup>/s max. (continuous operation with suction-return adapter).

The volume flow is 3 l/min (50 Hz).

The operating temperature is in the range of 0 °C to 60 °C.

### 5.2 Device description

The Compact Filter Pack CFP consists of a support frame in which the following major units are integrated:

1. A filter pump unit consisting of a gear pump and an electrical 1-phase motor. The pump is equipped with 3.5 bar pressure relief valve and a suction filter of 700 µm filter fineness. The motor is equipped with an ON/OFF switch and a power cord with a plug.
2. A filter with an exchangeable filter element and a gauge as maintenance indicator. The clogging indicator indicates the need to replace the filter element. Depending on the needs there are filter elements of a different filter fineness: 5, 10, or 16 µm.

### 5.3 Component overview

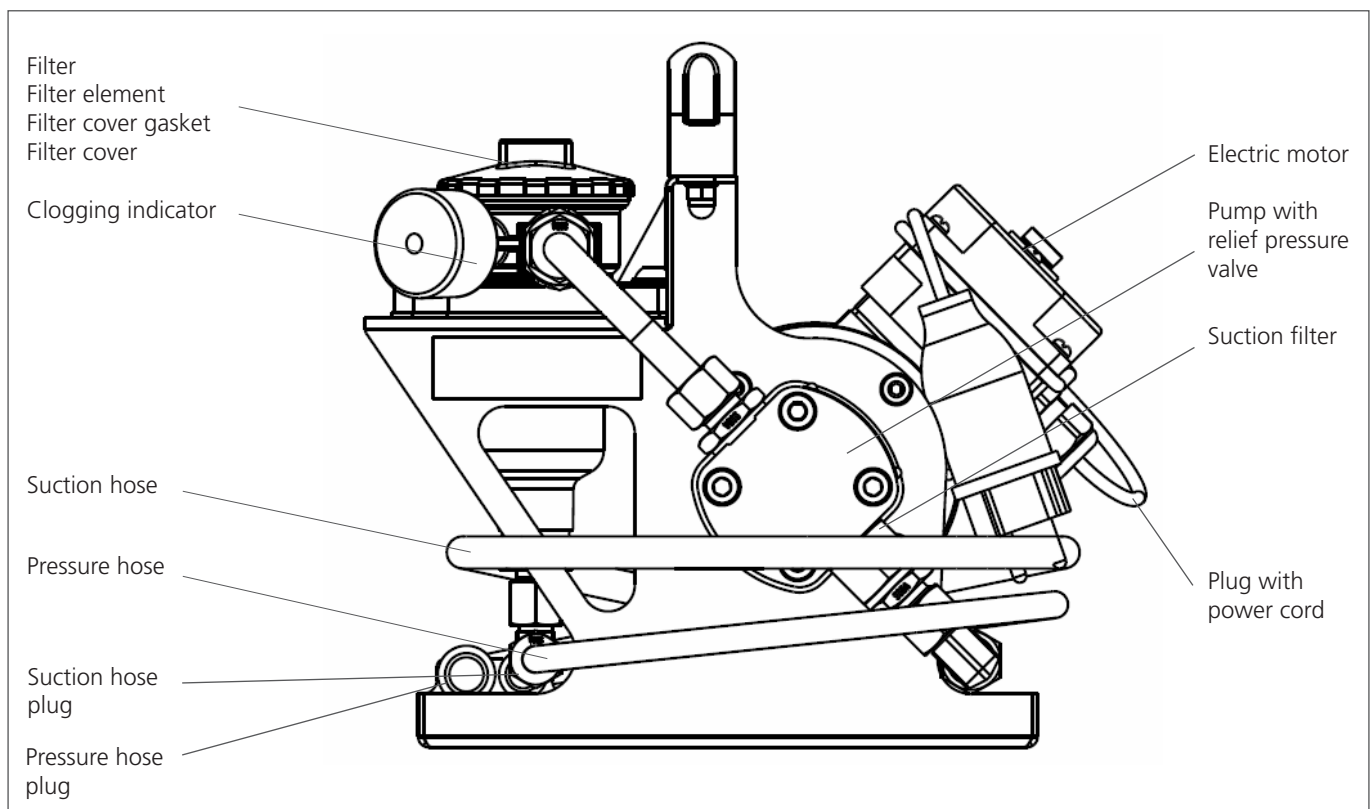


Fig. 4: CFP 03 component overview 1

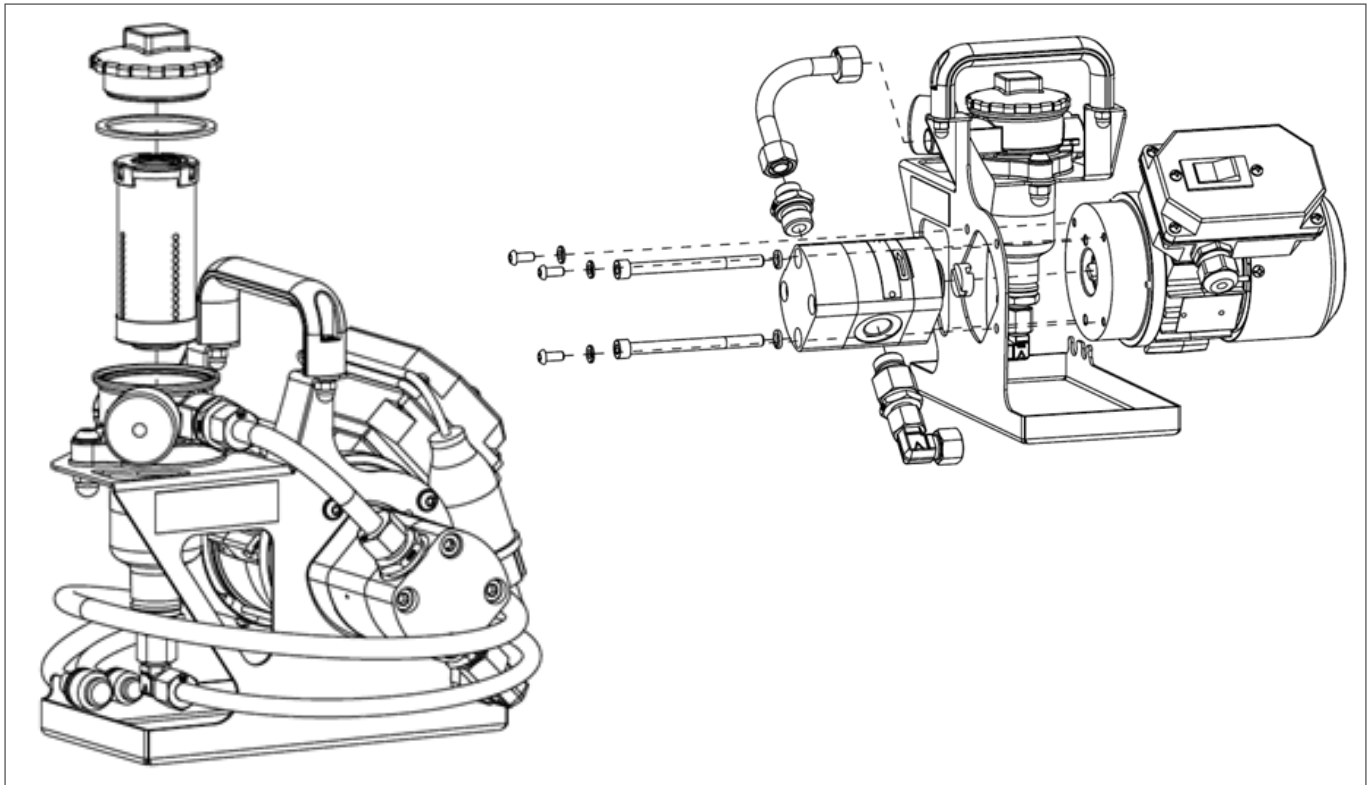


Fig. 5: CFP 03 component overview 2 + 3

#### 5.4 Identification of the product

The unit is provided with its own permanent and readable nameplate, located in a prominent position and containing the basic data of the unit.

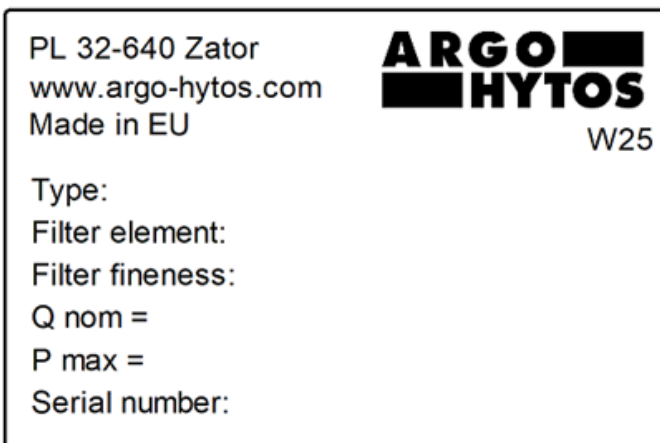


Fig. 6: Nameplate

#### NOTE

Nameplates are documents which must not be changed or removed.

- › Damaged or lost nameplates have to be replaced true to the original.

## 6. Transport and storage

### 6.1 Transport



#### **Falling unit through incorrect transport Injury and property damage**

- › Wear safety shoes when transporting the filter unit.



Fig. 7: Transport

A plastic holder is attached to the unit's frame to make its transport easier. Due to the fact that the weight does not exceed 10 kg, the device can be carried manually. When carrying the device, ensure a secure position of the unit and make sure that the handles are free from residual oil. This will prevent undesirable slipping of the device and falling on the feet of the person carrying the unit. The bottom part of the frame also serves as the base of the unit and as a collecting tray where the residual oil is collected.

### 6.2 Storage

The filter unit CFP should be stored in an enclosed area to protect it from humidity and condensation.



#### **Risks related to chemical reactions**

##### **Risk of injury**

- › Chemical substances in the immediate vicinity of the filter unit may react and lead to destruction of the device and to injuries of persons who are in the immediate vicinity of the device.
- › Storage in the immediate vicinity of chemically active substances such as acids, alkalis, salts, organic solvents and rechargeable batteries is prohibited.

The ambient temperature during storage of the filter unit CFP should be between + 5 °C and + 30 °C at a humidity of 80 %. Before storage over a period of more than 6 months, the unit should be filled with oil in order to preserve it against corrosion.



### WARNING



**Faulty power supply**  
**Risk of death and injury**

- › Always consider the country-specific regulations.

Let - prior to commissioning - an electrician check whether:

- › the mains voltage matches with the voltage specified on the type plate of the motor,
- › the power source has appropriately been secured,
- › the cross-section is of sufficient size,
- › cable and connection to the power source are in perfect condition.

Specifically, proceed with the following steps:

- › For unit with 230 V AC motor: connect the 230 V voltage plug to the local power supply
- › For unit with 110 V AC motor: connect the 110 V voltage plug to the local power supply

### 8.1 Before commissioning

- › Ensure cleanliness during installation in order to prevent debris such as welding beads or metal shavings from entering the hydraulic lines and causing wear and malfunctions in the product.
- › Make sure the connections, hydraulic lines and fittings are free of dirt and chips
- › Prior to commissioning, verify that all hydraulic and mechanical connections are connected and tight, and that all of the connectors' gaskets and screw connections are correctly installed and undamaged.
- › Use residue-free industrial wipes in order to remove lubricants and other contamination.
- › Make sure that the connections, hydraulic lines and fittings are clean.
- › Make sure that no contaminants penetrate while closing the connections.
- › Make sure that no cleaning agents enter the hydraulic system.
- › Do not use steel wool or fraying cloths for cleaning.

### 8.2 Commissioning

1. Remove the plugs from the free ends of suction and pressure hose.
2. Place the suction and discharge hose in the oil container. Make sure that they are immersed far enough below the liquid level.
3. Connect the voltage plug of the 1-phase socket.
4. Turn the filter unit on using the ON/OFF switch (circuit breaker).

### 8.3 After switching on

1. Check the filter unit for leaks.

### 8.4 Working with the additional suction-return set

1. Install the suction-return set in the oil tank.
2. Remove the plugs from the free ends of the suction and pressure hose.
3. Connect the suction and pressure hose to the appropriate quick couplings of the adapter.
4. Connect the voltage plug of the 1-phase socket.
5. Turn the filter unit on using the ON/OFF switch (circuit breaker).

### 8.5 End of operation

1. Turn the filter unit off at the ON/OFF switch (circuit breaker).
2. Unplug the power cord.
3. Remove the suction and pressure hose from the oil container.
4. In case of working with a return-suction adapter remove the adapter from the tank.
5. Clean the hoses and attach the hose plugs to free ends of the hoses.
6. When the device ends working, drain off the residual oil into a separate container.

### 8.6 Change of oil type

Prior to pumping another kind of oil:

1. Remove the filter element.
2. Clean the unit from the residual oil.
3. Install the new filter element in the housing.
4. Pump the oil into the target container.

### 8.7 In case of power failure

In order to prevent unintentional starting of the unit, always switch off and unplug the unit.

**CAUTION**



**Exposure to spilled oil  
Injury / risk of slipping**

› If oil leaks, the oil-covered area must be shut of immediately and covered with an oil binding medium (risk of slipping).



**Static charge  
Sparking**

› There is a risk of static charge when using poorly conducting hydraulic or lubricating oils. In this case, please consult the manufacturer.

**NOTE**

**Damage to the filter unit by missing or defective suction strainer.**

**Property damage.**

- › The strainer must be regularly checked according to the maintenance intervals and replaced if necessary.
- › The filter unit is provided with a protective strainer at the suction port of the pump. It has to be serviced regularly. A missing protective strainer may lead to destruction of the pump. (Order No. see spare parts list)
- › If the protective strainer is removed, the manufacturer will resume no liability.

**9.1 Filtering hydraulic fluids when refilling**

1. Connect the filter unit to a power source.
2. Place the suction hose into the oil drum.
3. Place the discharge hose into a container (e.g. hydraulic tank).

**NOTE**

**Faulty insertion of the discharge hose**

- › Make sure that the discharge hose is below the liquid surface.
4. Turn the filter unit on at the ON/OFF switch (circuit breaker).
  5. Check the oil flow on a possibly insufficient immersion depth of the suction hose in the oil tank.
  6. Using the clogging indicator, check the element for clogging at operating temperature of the medium used.
  7. Check the filling level at the machine or system and turn off the filter unit at the circuit breaker, once the desired filling quantity has been reached.
  8. Clean the hoses and install plugs to their free ends. Re-attach the suction and the discharge hose at the appropriate brackets at the filter unit.

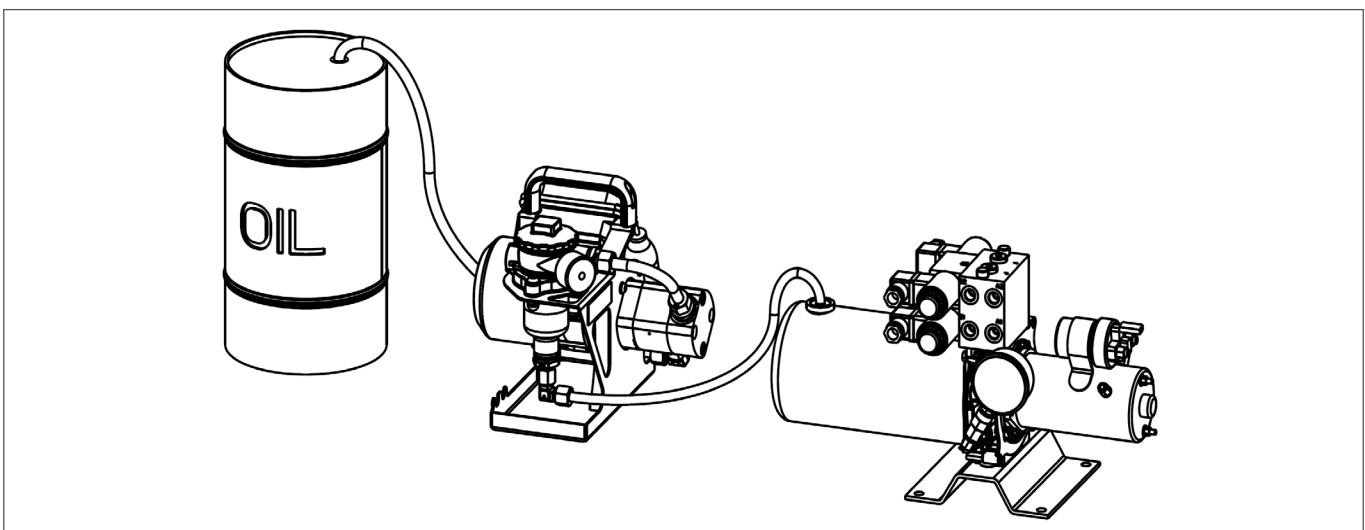


Fig. 8: Filling of the small power pack with the use of CFP

## 9.2 Filtering fluids in the bypass flow

1. Connect the filter unit to a power source.
2. Place the suction hose in the tank of the machinery or equipment (e.g. hydraulic tank).
3. Place the discharge hose in the tank of the machinery or equipment (e.g. hydraulic tank).
4. Turn the filter unit on at the ON/OFF switch (circuit breaker).
5. Check the oil flow on a possibly insufficient immersion depth of the suction hose in the oil tank.
6. Using the clogging indicator, check the element for clogging at operating temperature of the medium used.
7. Once the filtration is completed, pull the discharge hose out of the tank of the machinery or equipment (e.g. hydraulic tank) and draw in air for a maximum of 15 seconds.  
This returns residual oil from the filter housing and the lines above the oil level into the tank of the machinery or equipment via the discharge hose.
8. Switch off the filter unit using the circuit breaker.
9. Clean the hoses and install plugs to their free ends. Re-attach the suction and the discharge hose at the appropriate brackets at the filter unit.

### NOTE

#### Off-line filtration in tank with only one available connection port

- › Use the additional suction-return set to allow installation of two hoses (suction and return) in one port.

### 9.2.1 Working with the additional return-suction set

1. Connect the filter unit to a power source.
2. Install the suction-return adapter in the oil tank.
3. Remove the plugs from the free ends of the suction and pressure hose.
4. Connect the suction and pressure hose to the appropriate quick couplings of the adapter.
5. Using the clogging indicator, check the element for clogging at operating temperature of the medium used.
6. Once the filtration is completed, pull the suction hose from the quick coupling and draw in air for a maximum of 15 seconds.  
This returns residual oil from the filter housing and the lines above the oil level into the tank of the machinery via the discharge hose.
7. Switch off the filter unit using the circuit breaker.
8. Clean the hoses and install plugs to their free ends. Re-attach the suction and the discharge hose at the appropriate brackets at the filter unit.
9. Uninstall the suction-return adapter and attach it to the appropriate bracket at the filter unit.

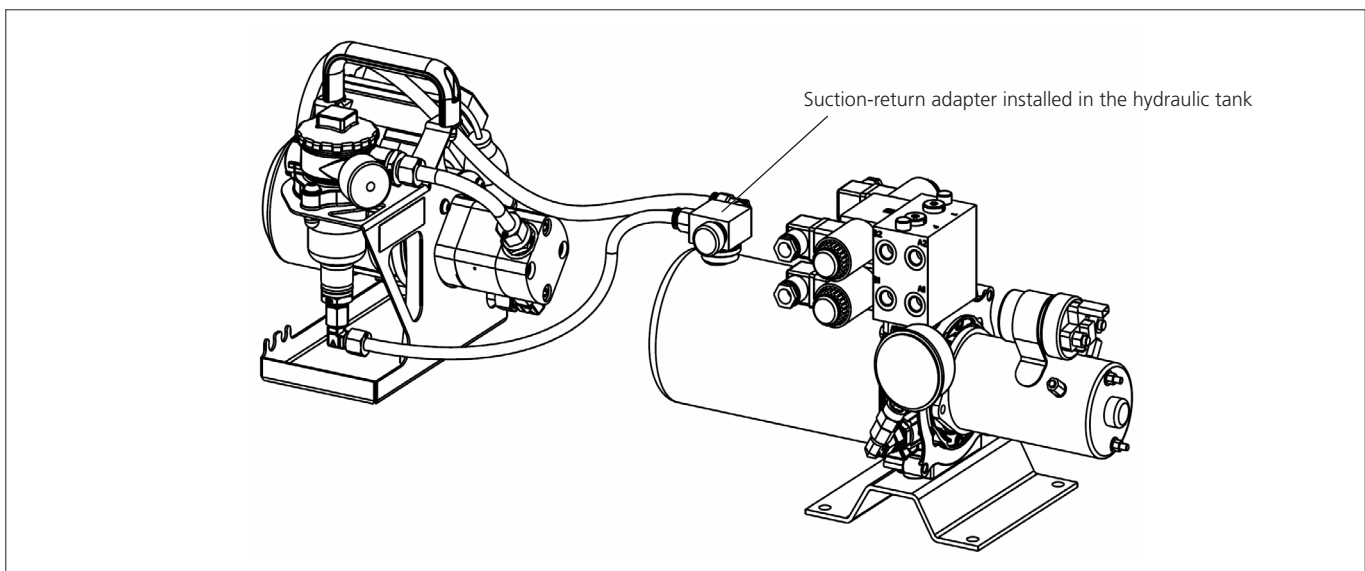


Fig. 9: Off-line filtration in small hydraulic power pack with CFP connected to the tank via suction-return set



**DANGER**

**Danger to life**  
**Risk of electric shock**

- › During repair work, turn off the unit and pull the mains plug.

**CAUTION**

**Risks related to chemical reactions**

**Risk of injury**

- › Chemical substances in the immediate vicinity of the filter unit may react and lead to destruction of the device and to injuries of persons who are in the immediate vicinity of the device
- › Storage in the immediate vicinity of chemically active substances such as acids, alkalis, salts, organic solvents and rechargeable batteries is prohibited.



**Hydraulic oil spills**

**Environmental hazard / risk of slipping**

- › Before maintenance and repair work, completely drain the unit.
- › In case of spills, cover the oil-covered surface immediately with an oil-binding medium.
- › Then immediately dispose of the oil-binding medium according to the national environmental regulations.



**Ignition hazard**

- › Risk of electrostatic charge by poorly conducting hydraulic fluid.
- › If the electrical conductivity of the hydraulic fluid is not known, please contact the manufacturer of the hydraulic fluid.



**Risk of burns**

- › Contact temperatures according to DIN EN563 (3) and DIN EN13202 (4) may be exceeded during operation.
- › Allow the filter unit to cool down before touching it.

**NOTE**

**Impaired function by dirt ingress into the pump.**

The function of the filter unit is no longer guaranteed.

- › During repair work, all parts coming in contact with the hydraulic medium, must be kept free of dirt and chips.

## 10.1 Maintenance

### 10.2 Maintenance overview

Except from the filter element and the suction strainer, the filter unit is maintenance-free.

Maintenance work	Order No.	Maintenance interval
Checking / changing the filter element	V3.0510-53 (5 µm) V3.0510-56 (10 µm) V3.0510-58 (16 µm)	Once the clogging indicator changes to the red range at a permissible viscosity
Checking / changing the suction strainer	40442600	Quarterly or with corresponding problems (lower volume flow with clean filter element, too loud noise level).

Table 6: Maintenance overview

#### 10.2.1 Cleaning / replacing the suction strainer

#### NOTE

**Damage to the filter unit by missing or defective suction strainer.**

#### Property damage

- › The suction strainer must be regularly checked, cleaned and replaced if necessary, according to the maintenance intervals.

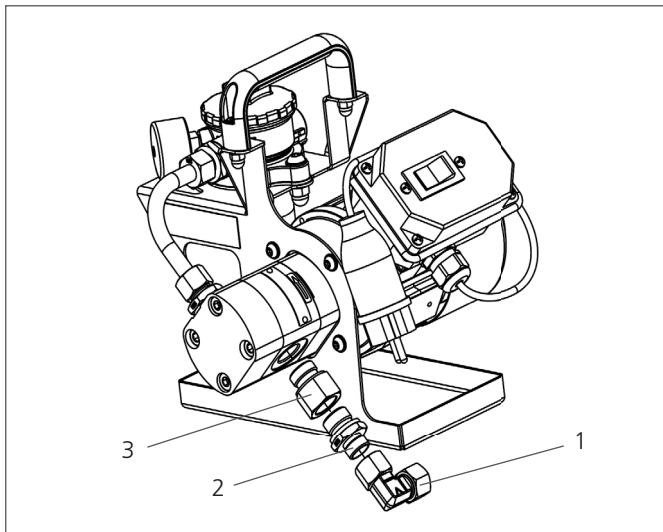


Fig. 10: Changing the suction strainer

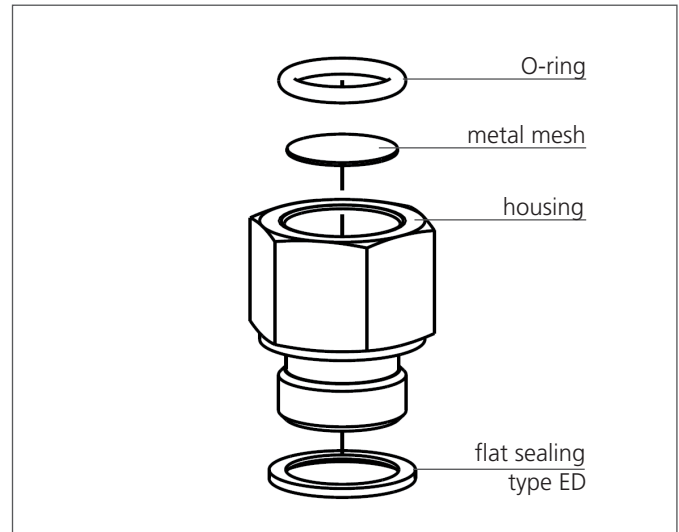


Fig. 11: Components of suction strainer:

1. Loosen and unscrew the elbow fitting (1).
2. Loosen and unscrew the straight nipple (2).
3. Unscrew the suction strainer set (3) from the inlet port of the pump.
4. Clean the suction strainer using cleaning agent.

#### NOTE

- › In case of damage, replace the metal mesh, sealing, and / or O-ring installed inside of the strainer housing - Figure 11. (Order No. - see spare part list).

5. Screw the suction strainer set (3) into the pump inlet port.
6. Screw the straight nipple (2).
7. Screw the elbow fitting (1)

### 10.3. Replacing the filter element

Turn the filter unit off at the ON/OFF switch (circuit breaker) and pull the mains plug.

#### CAUTION



#### Risk of burns

Contact temperatures according to DIN EN563 (3) and DIN EN13202 (4) may be exceeded during operation.

- › No fluid may pass through the filter while the filter element is being replaced.
- › Allow the filter unit to cool down before touching it.

#### 10.3.1 Removing the filter element

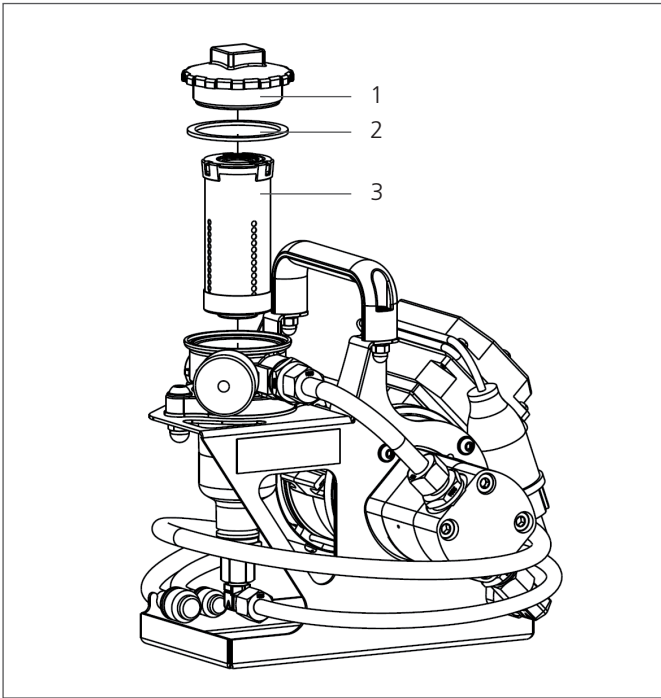


Fig. 12: Removing the filter element

1. Unscrew and remove the filter cover (1)
2. Carefully remove the sealing ring (2). Check the sealing. If necessary replace the sealing by new one. (Order code: of sealing N 031.0562)
3. Remove the filter element (3) from the housing.

#### 10.3.2 Installing the filter element

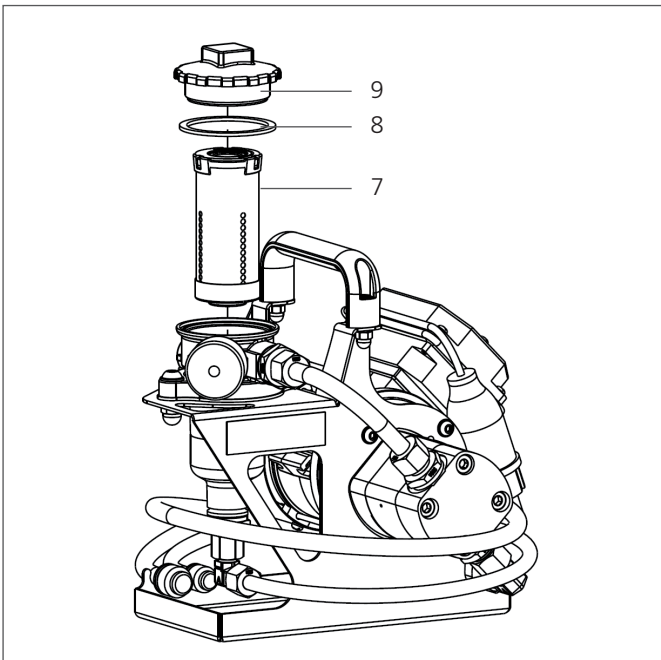


Fig. 13: Installing the filter element

4. Check the filter element type number. Does the laser inscription on the filter element match with the indications on the type plate or in the operating manual?
5. Dispose of the filter element according to the national environmental legislation (Waste code: Oil filter 16 01 07).
6. Clean the filter housing from residual dirt.
7. Carefully insert the new element into the filter housing.
8. Install sealing ring. Check the sealing. If necessary replace the sealing with new one (Order no. of sealing N 031.0562).
9. Screw in the filter cover until it stops (use the appropriate wrench, size 27).



**Danger to life**

**Risk of electric shock**

- › Before uninstalling, pull the mains plug. Uninstalling may only be carried out by qualified electricians.



**Risk of injury**

**Risk of injury by incorrect handling**

- › Uninstalling may only be carried out by instructed persons.

The final decommissioning and disposal requires complete uninstallation of the total energy supply, the mechanical components and the disposal of the hydraulic media remaining in the device.

With disassembly and disposal, all national safety and environmental regulations must be observed.

The filter unit is a device which does not have to be dismantled.

## 13. Disposal

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- › Careless disposal of the filter unit CFP and the hydraulic fluid can lead to environmental pollution.
- › Therefore, dispose of the filter unit and the hydraulic fluid in accordance with the national regulations of your country.
- › Dispose of hydraulic fluid residues according to the applicable safety data sheets for these hydraulic fluids.

## 14. Extension

### 14.1 Optional accessories

#### 14.1.1 Suction-return set

Order no. CFP-A-09/05

For off-line filtration in systems with steel tank with only one available port.



Fig. 14: Option: Suction-return set

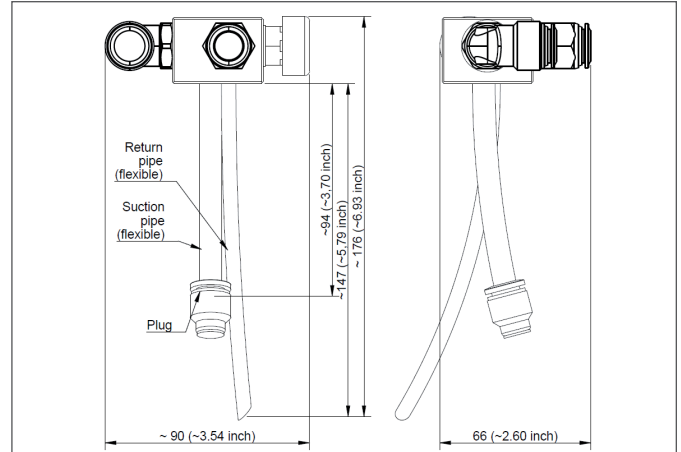


Fig. 15: Suction-return set - dimensions

#### 14.1.2 Additional adapter

For off-line filtration in systems with plastic tank with only one available port.

On request, ARGO-HYTOS also provides an additional adapter which is made of steel. The adapter screwed into the air filter port is the base for inserting the suction-return set. The installation is shown in figure 17.



Fig. 16: Option: Adapter M22x1,5 (G1/2")

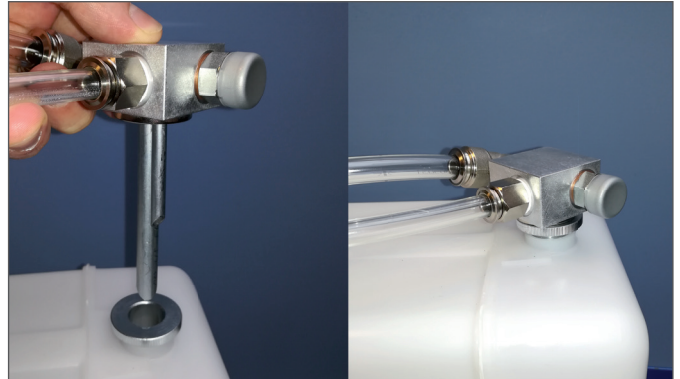


Fig. 17: Installation of suction-return set in plastic tank

Order number for adapter with thread M22x1.5: 40285700

Order number for adapter with thread G1/2": 40285800

Adapters with other threads on request.

### 15.1 How to proceed

- › Get an overview on the function of the product in connection with the overall system.
- › Try to find out whether the product had provided the required function in the overall system before the error occurred.
- › Try to detect changes in the overall system, into which the product has been installed:
  - » Have the operating conditions or the operating range of the product changed?
  - » Have modifications (e.g. conversions) or repairs been carried out at the overall system (device / unit, electrics, control) or at the product? If so, which modifications?
  - » Has the product or the device been operated correctly?
  - » How does the fault tend to show?
- › Get a clear impression about the cause of trouble. Possibly consult the direct operator or machine operator.



## 15.2 Fault table

Problem / fault	Possible cause	Elimination
Electric motor does not turn on during commissioning	<ul style="list-style-type: none"> <li>› Electrical cable or mains plug defective</li> <li>› Supply voltage missing</li> <li>› ON/OFF switch defective</li> <li>› Motor defective</li> <li>› Pump defective</li> <li>› Viscosity too high (medium)</li> <li>› Filter element contaminated</li> <li>› Pump blocked</li> </ul>	<ul style="list-style-type: none"> <li>› Have the cable replaced by a skilled electrician</li> <li>› Establish the power supply or activate the electric fuse</li> <li>› Replace ON/OFF switch</li> <li>› Replace motor (repair at the manufacturer's premises)</li> <li>› Replace pump (repair at the manufacturer's premises)</li> <li>› Warm up the oil</li> <li>› Let the motor cool down, clean any contaminated ventilation slits</li> <li>› Replace pump (repair at the manufacturer's premises)</li> </ul>
Volume flow is clearly too low	<ul style="list-style-type: none"> <li>› Filter element contaminated</li> <li>› Suction strainer contaminated</li> <li>› Viscosity too high</li> <li>› Suction height too large</li> <li>› Leak on the suction side</li> <li>› Wear of the pump</li> </ul>	<ul style="list-style-type: none"> <li>› Replace filter element</li> <li>› Replace / clean suction strainer</li> <li>› Warm up the medium</li> <li>› Adjust suction height</li> <li>› Replace suction hose or seal connection points (re-tighten them)</li> <li>› Replace pump (repair at the manufacturer's premises)</li> </ul>
Operating noise too loud	<ul style="list-style-type: none"> <li>› Filter element contaminated</li> <li>› Suction strainer contaminated</li> <li>› Viscosity too high</li> <li>› Suction height too large</li> <li>› Leak on the suction side</li> <li>› Wear of the pump</li> <li>› Filter unit standing on a vibration-sensitive surface (e.g. sheet metal)</li> </ul>	<ul style="list-style-type: none"> <li>› Replace filter element</li> <li>› Replace / clean suction strainer</li> <li>› Warm up the medium</li> <li>› Adjust suction height</li> <li>› Replace suction hose or seal connection points (re-tighten them)</li> <li>› Replace pump</li> <li>› Improve site conditions</li> </ul>
Pump does not suck	<ul style="list-style-type: none"> <li>› Leak on the suction side</li> <li>› Suction strainer clogged</li> </ul>	<ul style="list-style-type: none"> <li>› Replace suction hose or seal connection points (re-tighten them)</li> <li>› Clean / replace suction strainer</li> </ul>

Table 7: Fault table

## 16. Technical data

### 16.1 Technical data

Nominal flow rate	l/m (50 Hz)	3
Maximum working pressure	bar	3.5 ± 0.5
Cracking pressure of filter by-pass	bar	2.5
Filter element		CFP 03-13 <b>V3.0510-53</b> 5μ     β <sub>5(c)</sub> = 200 CFP 03-16 <b>V3.0510-56</b> 10μ     β <sub>10(c)</sub> = 200 CFP 03-18 <b>V3.0510-58</b> 16μ     β <sub>16(c)</sub> = 200 CFP 03-131 <b>V3.0510-53</b> 5μ     β <sub>5(c)</sub> = 200
Clogging indicator		Pressure gauge DG 200-16 green: 0 - 2 bar red: 2 bar and up
Suction strainer - mesh size	μm	700
Suction side		Hose DN 12, length 2 m
Pressure side		Hose DN 8, length 2 m
Electric drive	1 ~230 V Motor; 50/60 Hz; 0.06 kW, n=1,450 min <sup>-1</sup>	CFP 03-13, CFP 03-16, CFP 03-18
	1 ~110 V Motor; 50/60 Hz; 0.06 kW, n=1,450 min <sup>-1</sup>	CFP 03-131
Weight	kg	approx. 7,8
Sound power level	db(A) max.	65 (under operating conditions permitted for continuous operation) 70 (under operating conditions permitted for short-term operation)
Dimensions (L x W x H)	mm	300 x 270 x 265

Table 8: Technical data

### 16.2 Device dimensions

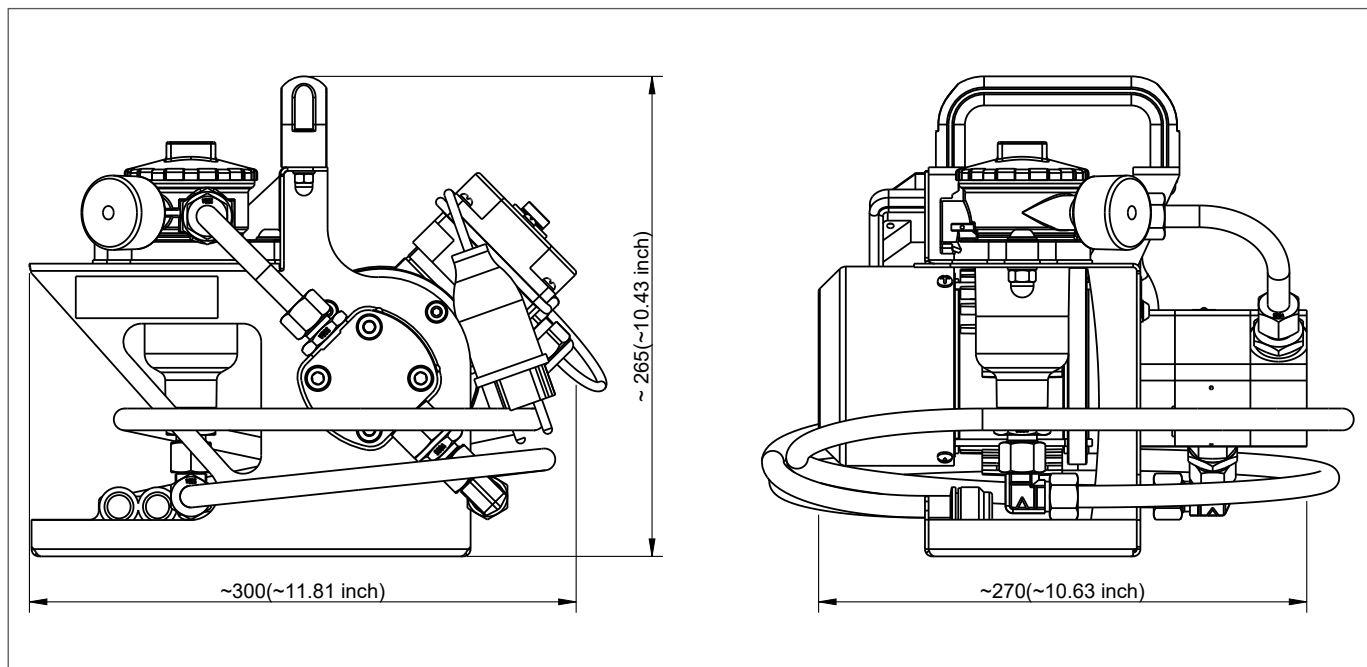
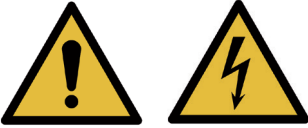


Fig. 18: Device dimensions

### 16.3 Operating conditions

Permissible temperature range	Hydraulic fluid °C	0 ... 60 (note viscosity range)
	Ambient temperature °C	0 ... 50

#### ! CAUTION

	<b>Risk of burns</b> <b>Contact temperatures according to DIN EN563 (3) and DIN EN13202 (4) may be exceeded during operation.</b> › Allow the filter unit to cool down before touching it.
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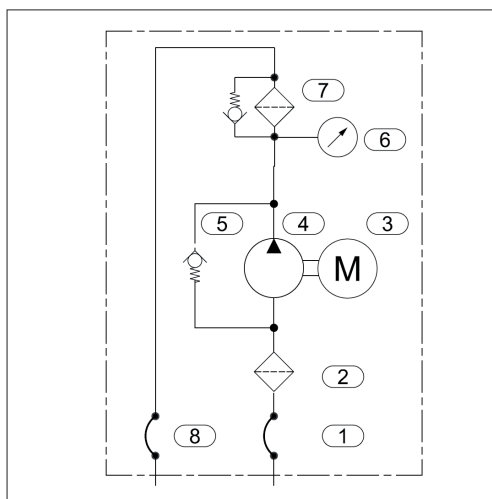
Permissible viscosity range	For continuous operation without suction-return set	10 - 300 mm <sup>2</sup> /s
	For continuous operation with suction-return set	10 - 170 mm <sup>2</sup> /s

#### NOTE

<b>Varying viscosity behavior</b> › Viscosities of a medium are always temperature-dependent.
--

Admissible suction heights	m (max.) first use	1.0
	m (max.) operating status	2.0
Resistant to environmentally friendly and petroleum based fluids. Before use with synthetic fluids please contact the manufacturer.		
Work position	Arbitrarily, preferably standing	
Mains fuse	230 V, 50 Hz	10 - 16 Amps

### 16.4 Hydraulic circuit diagram



- |                           |                      |
|---------------------------|----------------------|
| 1 Suction hose            | 6 Clogging Indicator |
| 2 Suction strainer        | 7 Filter element     |
| 3 Motor                   | 8 Pressure hose      |
| 4 Pump                    |                      |
| 5 Pressure limiting valve |                      |

Fig. 19: Hydraulic circuit diagram

17.1 EC-Declaration of Conformity

## EC Declaration of Conformity

We, the company,

ARGO-HYTOS Polska sp. z o.o.  
Władysława Grabskiego 27  
32-640 Zator, Poland,

declare on our sole responsibility that the products in the model series

Filter unit CFP 03

to which this declaration pertains are in conformity with the following directives:

**Directive 2006/42/EC (Machinery Directive)**

**Directive 2004/108/EC (EMC Directive)**

Conformity with the directives is assured through compliance with the following standards:

**DIN EN 809**

Pumps and Pump Units for Liquids

**DIN EN 60204-1 (VDE 0113-1: 2007-06)**

Safety of machinery - Electrical equipment of machines - Part 1 General requirements (IEC 60204-1:2005, modified);  
German version EN 60204-1:2006

Zator, 28.11.2017



Arkadiusz Noworyta  
AHPL CEO

## 17.2 Spare parts list

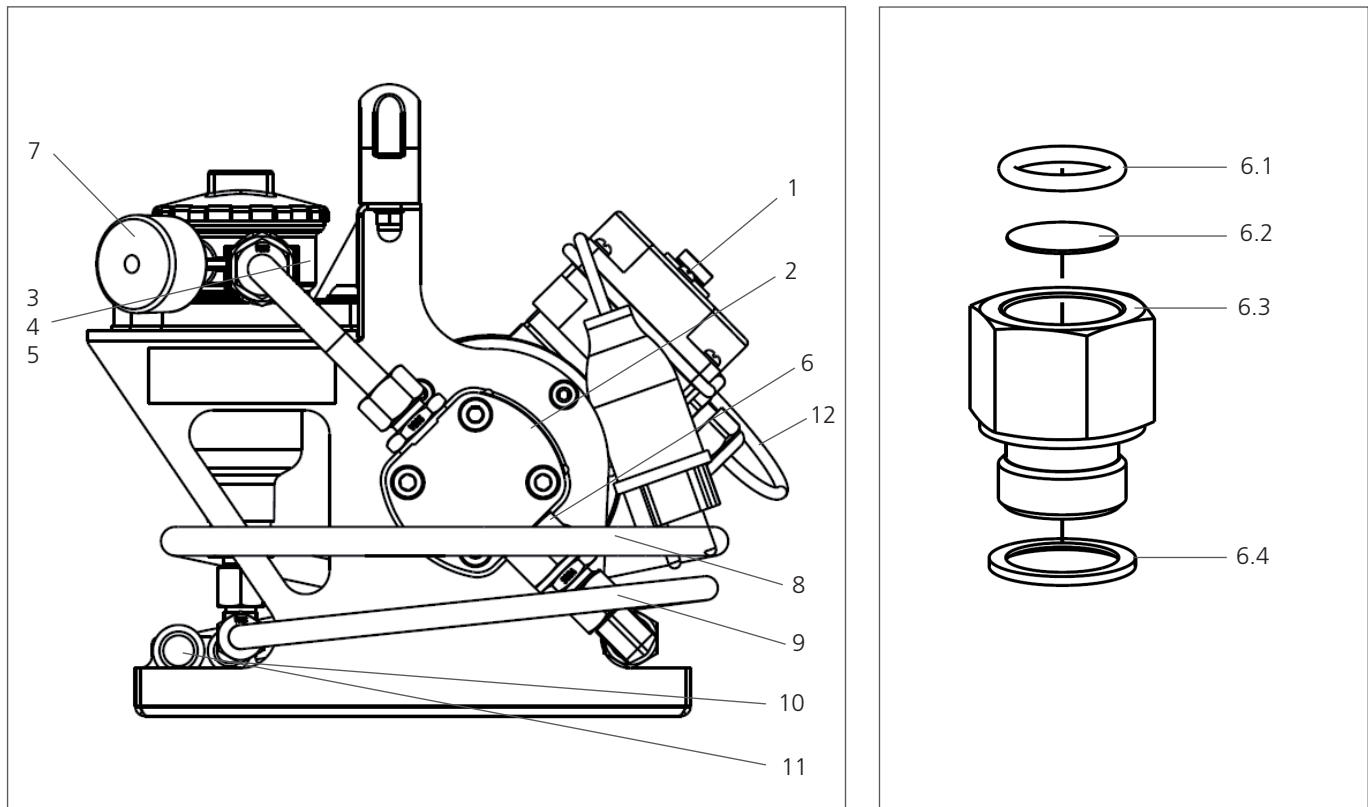


Fig. 20: Spare parts list

Pos.	Designation	Pcs	Order No/code.	Remark
1.1	Electric motor	1	40120900	230 VAC; 0.6kW; 50/60Hz
1.2	Electric motor	1	41198700	110 VAC; 0.6kW; 50/60Hz
2	Hydraulic pump	1	40119400	
3	Filter cap	1	D 043.2202	
4	Filter cap sealing	1	N 031.0562	
5.1	Filter element	1	V3.0510-53	5 µm , model CFP 03-13, CFP 03-131
5.2	Filter element	1	V3.0510-56	10 µm, model CFP 03-16
5.3	Filter element	1	V3.0510-58	16 µm, model CFP 03-18
6	Suction strainer set	1	40442600	Housing + steel mesh + O-ring + sealing
6.1	O-ring	1	40443200	
6.2	Steel mesh	1	40701600	
6.3	Housing	1	40446800	
6.4	Sealing	1	40445500	
7	Clogging indicator	1	DG200-16	
8	Suction hose	1	41765300	DN 12, length 2 m
9	Pressure hose	1	40701800	DN 8, length 2 m
10	Pressure hose plug	1	40445000	
11	Suction hose plug	1	41710000	
12.1	Electric cable complete	1	40701900	Cable 2.5m length + electric plug type E for CFP 03-13, CFP 03-16, CFP 03-18
12.2	Electric cable complete	1	40777900	Cable 3 m length + electric plug NEMA 5-15 (type B) for CFP 03-131

Table 9: Spare parts list

**International**

## ARGO-HYTOS worldwide

<b>Benelux</b>	ARGO-HYTOS B. V.	info.benelux@argo-hytos.com
<b>Brazil</b>	ARGO-HYTOS AT Fluid Systems Ltda.	info.br@argo-hytos.com
<b>China</b>	ARGO-HYTOS Fluid Power Systems (Yangzhou) Co., Ltd. ARGO-HYTOS Fluid Power Systems (Beijing) Co., Ltd. ARGO-HYTOS Hong Kong Ltd.	info.cn@argo-hytos.com info.cn@argo-hytos.com info.hk@argo-hytos.com
<b>Czech Republic</b>	ARGO-HYTOS s.r.o ARGO-HYTOS Protech s.r.o	info.cz@argo-hytos.com info.protech@argo-hytos.com
<b>France</b>	ARGO-HYTOS SARL	info.fr@argo-hytos.com
<b>Germany</b>	ARGO-HYTOS GMBH	info.de@argo-hytos.com
<b>Great Britain</b>	ARGO-HYTOS Ltd.	info.uk@argo-hytos.com
<b>India</b>	ARGO-HYTOS PVT. LTD.	info.in@argo-hytos.com
<b>Italy</b>	ARGO-HYTOS srl	info.it@argo-hytos.com
<b>Poland</b>	ARGO-HYTOS Polska sp. z o.o.	info.pl@argo-hytos.com
<b>Russia</b>	ARGO-HYTOS LLC	info.ru@argo-hytos.com
<b>Scandinavia</b>	ARGO-HYTOS Nordic AB	info.se@argo-hytos.com
<b>Turkey</b>	ARGO-HYTOS	info.tr@argo-hytos.com
<b>USA</b>	ARGO-HYTOS Inc.	info.us@argo-hytos.com

